

Radio Receiver Supporting Multiple Modulation Formats with a Single Pair of ADCs

Abstract

A radio receiver has an ADC connected to an RF module. Baseband processing modules are connected to the ADC, and a power control module is connected to each of the baseband processing modules. Each of the baseband processing modules is capable of performing detection, demodulation, time and frequency synchronization, decoding, and de-scrambling of signals of a respective modulation format among numerous modulation formats. At least one of the baseband processing modules also has a rate converter connected to the ADC for converting a data rate of signals output from the ADC to a data rate of the corresponding modulation format of that baseband processing module. The power control module is connected to the baseband processing modules and controls power to the baseband processing modules according to signals received from the baseband processing modules.